



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,818	04/26/2005	Christophe Labreuche	4590-395	9375

33308 7590 02/23/2007  
LOWE HAUPTMAN GILMAN & BERNER, LLP  
1700 DIAGNOSTIC ROAD, SUITE 300  
ALEXANDRIA, VA 22314

EXAMINER
----------

BROWN JR, NATHAN H

ART UNIT	PAPER NUMBER
----------	--------------

2121

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/532,818

Applicant(s)

LABREUCHE, CHRISTOPHE

Examiner

Nathan H. Brown, Jr.

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 10/532818, filed December 1, 2006.
2. Claims 1-19 are pending. Claim 1 is amended. Claims 2-17 were previously presented. Claims 18 and 19 are new.
3. After the previous office action, claims 1-17 stood rejected.

## Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- AK  
2/20/07
- 5 - 19 are
5. Amended claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. abstraction. Amended claim 1 recites a "method of decision making by an expert system in the absence of clearly identifiable rules, comprising the steps of: establishing decision making rules by the system in the absence of clearly identifiable rules..." where the rule itself comprises "at least two variables for each of which at least one limit is not strict". Examiner infers the form of a rule from the description of "introducing compensation into a tree" described in the Specification (*see* p. 17, lines 10-18) to

Art Unit: 2121

be: ‘[“Accepted”]”Resit”]”Refused”] if Antecedent’ where the Antecedent seems to be a disjunctive normal form on at least two variables. Seemingly, the rule, in this invention, is an abstraction of some component of a decision making process on rules themselves. The rules of this invention do not clearly map to any real world application (e.g., *see* pp. 20-22, 27, and 28). Further, compensation conditions and boundaries are clearly mathematical abstractions for the treatment of uncertainty in tree structures. Also, no real-world application is mentioned in the Specification which concentrates on a proof-theoretic explanation of the method.

Thus, amended claim 1 recites no more than a 101 judicial exception of abstraction. Further, claim 1 acts to seek patent protection from the application of the mathematics presented in the Specification to every conceivable problem domain. Claim 1 is clearly pre-emptive. Since claims 2-18 depend from claim 1 without curing the deficiencies of claim 1, claims 1-18 are non-statutory under 35 U.S.C. 101.

6. Claim 19 is rejected for the same reasons as amended claim 1.

### Response to Arguments

7. Applicant's arguments filed December 1, 2006 have been fully considered but they are not persuasive.

Claims 1-17 rejected under 35 USC 101

Art Unit: 2121

8. Applicant argues against the rejection of claims 1-17 as directed to non-statutory subject matter: mathematical algorithm and/or software by asserting that:

The claimed invention refers to a decision making method used in the absence of clearly identifiable rules, i.e. when a decision tree comprises a lot of inaccuracies and uncertainties, which cannot be solved by a human expert. Hence; the invention provides a <<specific, substantial and credible utility)) which helps the expert in finding out the way of reconciling different kinds of parameters when positive aspects can compensate for the negative aspects of a problem, these negative aspects not being negligible. The claimed method provides a result that is "substantially repeatable at the compensation boundaries in real world problems .... " (see e.g., page i5, line 34 to page 16, line 15): this very simple example shows that the students are indeed always judged according to equitable and reproducible criteria. Accordingly, this rejection should be withdrawn.

Examiner responds that helping an "expert in finding out the way of reconciling different kinds of parameters when positive aspects can compensate for the negative aspects of a problem..." is not a real-world result as no particular problem is specified or claimed. The *problem* of "finding out the way of reconciling different kinds of parameters when positive aspects can compensate for the negative aspects of a problem" is a meta-problem, applicable to real-world problems having, presumably, uncertainties that can be modeled by tree structures. Examiner notes that one possibility of limiting the claims in such a fashion as to provide a real world result would be to claim something like a 'theorem proving decision support system' or a 'rule development support system' in which the methodology supported by the systems is applied to real-world problems as a demonstration of various aspects of the workings of the methodology.

Art Unit: 2121

Claim 1 and 10 rejected under 35 USC 103(a)

9. Applicant argues against the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over *Tomita* in view of *Tzes et al.*, and further in view of *Botteldooren et al.* by asserting that:

The Examiner concedes that "neither *Tomita* nor *Tzes et al.* teach asking questions to allowing the system to introduce a compensation condition into the non-clearly identifiable rules". Claim 1 recites "asking questions for allowing the systems to introduce a compensation condition into the non-clearly identifiable rules." Claim 19 recites "asking questions for allowing the system to introduce a compensation condition for the parameters of a decision tree wherein a poor value of a first variable is compensated by a good value of another variable...". However, none of the cited references, either taken alone or in combination, describes the compensation. Accordingly, this rejection should be withdrawn.

Examiner responds that *Botteldooren et al.* give numerous examples of aggregation used as compensation and that public opinion surveys comprise asking questions.

10. Applicant argues against the rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Tomita* in view of *Tzes et al.* and *Botteldooren et al.* and further in view of *Pal et al.*, by asserting that:

*Botteldooren et al.* does not overcome the deficiencies of *Tomita* and *Tzes et al.* *Botteldooren et al.* discloses an "aggregation of the impact of all the sources". This is a mere merging (or addition) of parameters that has nothing to do with any compensation. Accordingly, this rejection should be withdrawn.

Art Unit: 2121

Examiner responds that that *Botteldooren et al.* also disclose that “aggregation is based on an OR operator” (*see* p. 1503) which has the same effect as the disjunctive normal form used by Applicant’s rules (e.g., *see* Specification, pp. 20-22, 27, and 28).

Applicant continues., by asserting that:

Pal et al disclose a pruning method for a decision tree, which "removes all roles which cannot meet a certain level of performance", i.e. this is just the contrary of our method which "rescues" (thanks to the compensation) weak rules, which would be "pruned" if using the method of Pal et al. Accordingly, this rejection should be withdrawn.

Examiner responds that Applicant’s methods of ‘extending’ a rule (*see* Specification, pp. 2-3) and ‘interpolating between rules’ (*see* Specification, p. 5) amounts to replacing the original rule(s) by rewriting it. Now, even if applicant does not physically edit out the replaced rule, the ‘extended’ or ‘interpolated’ rule acts to ‘logically’ prune the original in the course of conflict resolution.

Examiner maintains the above 103(a) rejections.

## Conclusion

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

## Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for



Art Unit: 2121

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Knight  
Supervisory Patent Examiner  
Tech Center 2100

Nathan H. Brown, Jr.  
February 20, 2007